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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,658	12/17/2001	Kwang-Leong Choy	674556-2003.1	3227
20999 7590 08/06/2007 FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER PARKER, FREDERICK JOHN	
			ART UNIT 1762	PAPER NUMBER
			MAIL DATE 08/06/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/024,658	Applicant(s) CHOY ET AL.	
	Examiner Frederick J. Parker	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2007.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 37-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-69 is/are allowed.
- 6) ☒ Claim(s) 70-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 70 is rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al US 5,344,676.

Kim et al teaches a method for applying nanodrops to a substrate to form a coating film or nanoparticles (= powder, col. 3, 23). A polymeric sol-type precursor material 9 comprises a decomposable base material with a solvent which is electrostatically sprayed as liquid droplets charged with a negative or positive polarity, and an electric field generated between the charged droplets and electrode needle 14 as described provides a corona spray because the electrons are produced by the electrode to flow and charge the droplets. The entire apparatus is contained within chamber 22. The target area is heated by heater 34 to promote reactions and specific heating temperatures dependant upon the decomposition temperature of any precursor form the desired coating material. There must inherently be a decrease in temperature as a function of distance from the heated substrate towards the outlet. Solvent evaporation and precursor decomposition would have inherently occurred as atomized particles approach, and prior to contacting, the substrate to satisfy the requirement of forming a coating film or nanoparticles. Coating solution is transported/fed from supply 2 to the spray outlet using capillary tube device 10.

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3. Claim 72 is rejected under 35 U.S.C. 102(b) as being anticipated by Spiller US 3754975.

Spiller teaches a method of coatings a substrate by supplying a coating solution under pressure comprising a solvent and decomposable metal salt ("precursor compound") which is sprayed (inherently involves "pressure feeding") through a nozzle of a spray head onto the grounded, heated substrate to decompose the solution to form a coating, the heated substrate providing an increase in temperature from the spray outlet towards the heated substrate (and therefore inherently also a decreasing temperature gradient from the heated substrate towards the nozzle). The sprayed particles are guided by and adhere to the substrate by utilization of an electrostatic field between particles and substrate, the particle charging as described on col. 8, Example, etc.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness
2. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al.

Kim is cited for the same reasons previously discussed, which are incorporated herein. Maintaining the field during cooling is not explicitly cited. However, it remains the Examiner's position that maintaining the electrostatic field during cooling of the applied coat would have been an obvious variation to maintain the particles applied in place to the heated substrate during the cooling process while additional volatiles are driven off. Furthermore, one of ordinary skill would NOT remove the field during the process of Kim because the decomposing droplets would not be attracted to the substrate and thereby defeating the teachings of Kim, so that removal of the field after the spray is completed and during the cooling process would have simply been an obvious variation within the purview of one of ordinary skill to provide completion of the coating process. It is well-established that the artisan is presumed to know something about the art apart from what the references disclose, *In re Jacoby* 135 USPQ 317; The conclusion of obviousness maybe made from "common sense" and "common knowledge" of the person of ordinary skill, *In re Bozek* 163 USPQ 545.

Furthermore, the solvent bearing precursor goes through the thermal gradient (dependant upon a plurality of circumstances) and contacts the heated substrate where the precursor undergoes decomposition and solvent evaporation. The latter entails the removal of heat by virtue of the inherent process of evaporation, causing at least some degree of cooling of the material deposited, a simple principle of evaporation. The claim simply does not require anything more as written, since no specific degree of cooling or outcome is required.

*Response to Arguments*

Applicants argue the 102 rejections are improper. This is not persuasive because 1) the specific technical reasons are not set forth and each and every limitation of the claim is disclosed by the reference or inherent. The rejections are accordingly maintained.

Applicants argue that in the 103 rejections there must be a Prior Art teaching for modifying a reference to arrive at a claimed invention. Applicants are simply incorrect. In response, Applicants are reminded that KSR 82 USPQ2d 1396 forecloses the argument that a specific teaching, suggestion, or motivation is required in a reference to establish a prima facie case of obviousness. KSR establishes that design incentives, market forces, predictability, use of ordinary skill and common sense, and ordinary capabilities or ingenuity of one skilled in the art articulated by the Examiner may be relied upon to support obviousness. The differences between claim limitations and reasons as to why the claim is obvious is clearly articulated in the rejections.

Since Applicants provide no specific reasons or scientific proof as to why the content of the rejections are not anticipated or obvious, the rejections stand.

3. Claims 37-69 distinguish over the prior art for the reasons cited in previous Office actions.
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

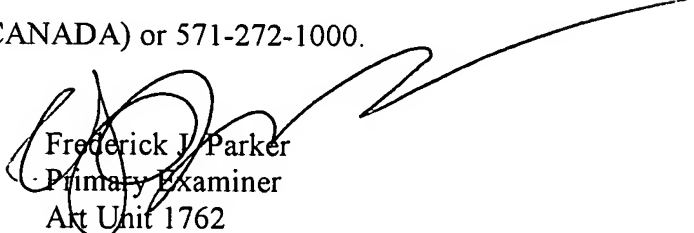
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Frederick J. Parker  
Primary Examiner  
Art Unit 1762

FJP